

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

Claim 1 (currently amended) Water ~~water~~ soluble porous bodies comprising a three dimensional oil and water emulsion templated open-cell lattice containing:

- (a) less than 10% by weight of water-soluble polymeric material other than a surfactant, and
- (b) 5 to 95% by weight of a surfactant, and,
- (c) a water-insoluble material incorporated into said lattice to be dispersed when the water-soluble porous body dissolves,

said porous bodies having an intrusion volume as measured by mercury porosimetry of at least about 3 ml/g,

wherein said porous bodies are powders having a particle size below about 0.2 mm or moulded bodies having a particle size above 5 mm; and

with the proviso that said porous bodies are not spherical beads having an average bead diameter of 0.2-5.0 mm;

wherein said water-soluble polymeric material is a natural gum, a polysaccharide, a cellulose derivative or a homopolymer or copolymer comprising (co)monomers selected from the group consisting of:

vinyl alcohol,

acrylic acid,

methacrylic acid

acrylamide,

methacrylamide

acrylamide methylpropane sulphonates

aminoalkylacrylates

aminoalkylmethacrylates

hydroxyethylacrylate
hydroxyethylmethacrylate
vinyl pyrrolidone
vinyl imidazole
vinyl amines
vinyl pyridine
ethyleneglycol
ethylene oxide
ethyleneimine
styrenesulphonates
ethyleneglycolacrylates
ethyleneglycol methacrylate; and
mixtures thereof.

Claim 2-3 (canceled)

Claim 4 (currently amended) Porous bodies as claimed in claim 1, 3 wherein the cellulose derivative is selected from the group consisting of xanthan gum, xyloglucan, cellulose acetate, methylcellulose, methylethylcellulose, hydroxyethyl-cellulose, hydroxyethylmethylcellulose, hydroxyl-propylcellulose, hydroxypropylmethylcellulose (HPMC), hydroxypropylbutylcellulose, ethylhydroxyethylcellulose, carboxymethylcellulose and its salts, or carboxymethyl-hydroxyethylcellulose and its salts.

Claim 5 (previously presented) Porous bodies as claimed in claim 1 wherein the surfactant is non-ionic, anionic, cationic, or zwitterionic.

Claim 6 (previously presented) Porous bodies as claimed in claim 1 wherein the surfactant is solid at ambient temperature.

Claim 7 (previously presented) Porous bodies as claimed in claim 1 wherein the surfactant is selected from the group consisting of ethoxylated triglycerides; fatty alcohol ethoxylates; alkylphenol ethoxylates; fatty acid ethoxylates; fatty amide ethoxylates; fatty amine ethoxylates; sorbitan alkanoates; ethylated sorbitan alkanoates; alkyl ethoxylates; pluronics; alkyl polyglucosides; stearyl ethoxylates; alkyl polyglycosides; alkylether sulfates; alkylether carboxylates; alkylbenzene sulfonates; alkylether phosphates; dialkyl sulfosuccinates; alkyl sulfonates; soaps; alkyl sulfates; alkyl carboxylates; alkyl phosphates; paraffin sulfonates; secondary n- alkane sulfonates; alpha-olefin sulfonates; isethionate sulfonates; fatty amine salts; fatty diamine salts; quaternary ammonium compounds; phosphonium surfactants; sulfonium surfactants ; sulfonxonium surfactants; N-alkyl derivatives of amino acids; imidazoline surfactants; amine oxides; amidobetaines; and mixtures thereof

Claim 8 (previously presented) Porous bodies as claimed in claim 1 wherein the porous polymeric bodies have water soluble material incorporated into the polymeric lattice; wherein the water soluble material is selected from the group consisting of water soluble vitamins; water soluble fluorescers; activated aluminium chlorohydrate; transition metal complexes used as bleaching catalysts; water soluble polymers; diethylenetriaminepentaacetic acid (DTPA); primary and secondary alcohol sulphates containing greater than C8 chain length; or mixtures thereof.

Claim 9 (canceled)

Claim 10 (previously presented) Water soluble porous polymeric bodies as claimed in claim 1 wherein the water insoluble material is selected from the group consisting of antimicrobial agents; antidandruff agent; skin lightening agents; fluorescing agents; antifoams; hair conditioning agents; fabric conditioning agents; skin conditioning agents; dyes; UV protecting agents; bleach or bleach precursors; antioxidants; insecticides; pesticides; herbicides; perfumes or precursors thereto; flavourings or precursors thereto; pharmaceutically active materials; hydrophobic polymeric materials; and mixtures thereof.

Claim 11 (currently amended) A method for preparing water soluble porous bodies comprising a three dimensional oil-and-water emulsion templated open-cell lattice containing

(a) less than 10% by weight of a water soluble polymeric material other than a surfactant; and

(b) 5 to 90% by weight of a surfactant, and

(c) a water-insoluble material incorporated into said lattice to be dispersed when the water-soluble porous body dissolves;

said porous bodies having an intrusion volume as measured by mercury porosimetry of at least about 3 ml/g;

wherein said porous bodies are powders having a particle size below about 0.2 mm or moulded bodies having a particle size above 5 mm; and

with the proviso that said porous bodies are not spherical beads having an average bead diameter of 0.2-5.0 mm;

comprising the steps of:

a) providing an oil-in-water emulsion comprising the polymeric material, the hydrophobic material and the surfactant in a liquid medium

b) providing a fluid freezing medium at a temperature effective for rapidly freezing the liquid medium;

c) cooling the liquid medium with the fluid freezing medium at a temperature below the freezing point of the liquid medium for a period effective to rapidly freeze the liquid medium; and

d) freeze-drying the frozen liquid medium to form the porous bodies by removal of the liquid medium by sublimation.

Claim 12 (original) A method as claimed in claim 11 wherein the cooling of the liquid medium is accomplished by spraying an atomised emulsion into the fluid freezing medium; by dropping drops of the emulsion into the fluid freezing medium or by pouring the emulsion into a mould and cooling the emulsion in the mould.

Claim 13 (previously presented) A method as claimed in claim 11 wherein the polymeric material is a natural gum, a polysaccharide, a cellulose derivative or a homopolymer or copolymer comprising (co)monomers selected from the group consisting of:

vinyl alcohol,
acrylic acid,
methacrylic acid
acrylamide,
methacrylamide
acrylamide methylpropane sulphonates
aminoalkylacrylates
aminoalkylmethacrylates
hydroxyethylacrylate
hydroxyethylmethacrylate
vinyl pyrrolidone
vinyl imidazole
vinyl amines
vinyl pyridine
ethyleneglycol
ethylene oxide
ethyleneimine
styrenesulphonates
ethyleneglycolacrylates
ethyleneglycol methacrylate; and

mixtures thereof.

Claim 14 (previously presented) A method as claimed in claim 11 wherein the surfactant is non-ionic, anionic, cationic, or zwitterionic.

Claim 15 (previously presented) A method as claimed in claim 11 wherein the surfactant is solid at ambient temperature.

Claim 16 (previously presented) A method as claimed in claim 11 wherein the surfactant has an HLB value of 8 to 18.

Claim 17 (previously presented) A method as claimed in claim 11 wherein the surfactant is selected from the group consisting of ethoxylated triglycerides; fatty alcohol ethoxylates; alkylphenol ethoxylates; fatty acid ethoxylates ; fatty amide ethoxylates; fatty amine ethoxylates; sorbitan alkanoates; ethylated sorbitan alkanoates; alkyl ethoxylates; pluronics; alkyl polyglucosides; stearyl ethoxylates; alkyl polyglycosides; alkylether sulfates; alkylether carboxylates; alkylbenzene sulfonates; alkylether phosphates; dialkyl sulfosuccinates; alkyl sulfonates; soaps; alkyl sulfates; alkyl carboxylates; alkyl phosphates; paraffin sulfonates; secondary n- alkane sulfonates; alpha-olefin sulfonates; isethionate sulfonates; fatty amine salts; fatty diamine salts; quaternary ammonium compounds; phosphonium surfactants; sulfonium surfactants; sulfonxonium surfactants; N-alkyl derivatives of amino acids (such as glycine, betaine, aminopropionic acid); imidazoline surfactants; amine oxides; amidobetaines; and mixtures thereof.

Claim 18 (previously presented) A method as claimed in claim 11 wherein the discontinuous phase of the emulsion comprises 10 to 95% by volume of the emulsion.

Claim 19 (previously presented) A method as claimed in claim 11 wherein the discontinuous phase of the emulsion comprises 20 to 60% by volume of the emulsion.

Claim 20 (previously presented) A method as claimed in claim 11 wherein the discontinuous phase of the emulsion is selected from the group consisting of alkanes; cyclic hydrocarbons; halogenated alkanes; esters; ketones; ethers; volatile cyclic silicones and mixtures thereof.

Claim 21 (previously presented) Solutions or dispersions comprising water soluble polymeric materials and surfactant formed by exposing the porous bodies of claim 1 to an aqueous medium.

Claim 22 (canceled)